



IFWO

RAW SEQUENCE LISTING

DATE: 09/01/2004

PATENT APPLICATION: US/10/659,782A

TIME: 16:56:55

Input Set : A:\28238 sequence listing.txt

Output Set: N:\CRF4\09012004\J659782A.raw

3 <110> APPLICANT: Mintz, Liat
 5 <120> TITLE OF INVENTION: Compositions, Reagents and Kits for and Methods of
 Diagnosing,

6 Monitoring and Treating Obesity and/or Diabetes

8 <130> FILE REFERENCE: 28238

10 <140> CURRENT APPLICATION NUMBER: 10/659,782A

11 <141> CURRENT FILING DATE: 2003-09-11

13 <160> NUMBER OF SEQ ID NOS: 42

15 <170> SOFTWARE: PatentIn version 3.2

17 <210> SEQ ID NO: 1

18 <211> LENGTH: 4517

19 <212> TYPE: DNA

20 <213> ORGANISM: Homo sapiens

22 <400> SEQUENCE: 1

23 ctgattccat accagagggg ctcaggatgc tgttgctggg agctgttcta ctgctattag 60
 25 ctctgcccgg gcatgaccag gaaaccacga ctcaagggcc cggagtcctg cttcccctgc 120
 27 ccaagggggc ctgcacaggt tggatggcgg gcatcccagg gcatccgggc cataatgggg 180
 29 ccccaggccg tgatggcaga gatggcaccc ctgggtgagaa ggggtgagaaa ggagatccag 240
 31 gtcttattgg tcctaaggga gacatcggtg aaaccggagt acccggggct gaaggtcccc 300
 33 gaggttttcc gggaatccaa ggcaggaaaag gagaacctgg agaaggtgcc tatgtatacc 360
 35 gctcagcatt cagtgtggga ttggagactt acgttactat cccaacatg cccattcgct 420
 37 ttaccaagat cttctacaat cagcaaaacc actatgatgg ctccactggt aaattccact 480
 39 gcaacattcc tgggctgtac tactttgcct accacatcac agtctatatg aaggatgtga 540
 41 aggtcagcct cttcaagaag gacaaggcta tgctcttcac ctatgatcag taccaggaaa 600
 43 ataatgtgga ccaggcctcc ggctctgtgc tcctgcatct ggaggtgggc gaccaagtct 660
 45 ggctccaggt gtatggggaa ggagagcgtg atggactcta tgctgataat gacaatgact 720
 47 ccaccttcac aggttttctt ctctaccatg acaccaactg atcaccacta actcagagcc 780
 49 tcctccaggc caaacagccc caaagtcaat taaaggcttt cagtacggtt aggaagttga 840
 51 ttattattta gttggaggcc tttagatatt attcattcat ttactcattc atttattcat 900
 53 tcattcatca agtaacttta aaaaaatcat atgctatgtt cccagtcctg gggagcttca 960
 55 caaacatgac cagataactg actagaaaga agtagttgac agtgctatatt tgtgcccact 1020
 57 gtctctcctg atgctcatat caatcctata aggcacaggg aacaagcatt ctctgtttt 1080
 59 tacagattgt atcctgaggc tgagagagtt aagtgaatgt ctaaggtcac acagtattaa 1140
 61 gtgacagtgc tagaaatcaa acccagagct gtggactttg ttcactagac tgtgcccttt 1200
 63 tatagaggta catgttctct ttggagtgtt ggtaggtgtc tgtttccac ctcacctgag 1260
 65 agccattgaa tttgccttcc tcatgaatta aaacctcccc caagcagagc ttctcagag 1320
 67 aaagtggttc tatgatgaag tcctgtcttg gaaggactac tactcaatgg cccctgcact 1380
 69 actctacttc ctcttaccta tgtcccttct catgcctttc cctccaacgg ggaaagccaa 1440
 71 ctccatctct aagtgtgaa ctcatccctg ttctcaggg ccacctggcc aggagcttct 1500
 73 ctgatgtgat atccactttt tttttttttt gagatggagt ctactctgt caccagggt 1560
 75 ggagtacagt gacacgacct cggctcactg cagcctcctt ctctgggtc caagcaatta 1620
 77 ttgtgcctca gcctcccgag tagctgagac ttcagggtgca ttccaccaca catggctaata 1680
 79 ttttgatatt ttagtagaaa tggggtttgc tcatgttggc caggctgggtc tcgaactcct 1740
 81 ggcttaggtg atccaccgc ctcgacctcc caaagtgtgt ggattacagg catgagccac 1800



RAW SEQUENCE LISTING

DATE: 09/01/2004

PATENT APPLICATION: US/10/659,782A

TIME: 16:56:55

Input Set : A:\28238 sequence listing.txt

Output Set: N:\CRF4\09012004\J659782A.raw

```

83 catgcccagt cgatatctca ctttttattt tgccatggat gagagtcctg ggtgtgagga 1860
85 acacctccca ccaggctaga ggcaactgcc caggaaggac tgtgtctccg tcacctctaa 1920
87 atcccttgca gatccttgat aaatgectca tgaagaccaa tctcttgaat cccatatcta 1980
89 cccagaatta actccattcc agtctctgca tgtaatcagt tttatccaca gaaacatttt 2040
91 catttttagga aatccctggg ttaagtatca atccttgttc agctggacaa tatgaatcct 2100
93 ttccactgaa gttagggatg actgtgattt tcagaacacg tccagaattt ttcacaaaga 2160
95 aggtagcttg agcctgaaat gcaaaaccca tggaggaatt ctgaagccat tgtctccttg 2220
97 agtaccaaca gggtcagggg agactgggccc tctgaatttt attattgttc tttagaatt 2280
99 acaggttgag gtagtgtatg gtggtaaaaa ttctctcagg agacaataac tccagtgatg 2340
101 tttttcaaaag atttttagcaa aaacagagta aatagcattc tctatcaata tataaattta 2400
103 aaaaactatc tttttgctta cagttttaaa ttctgaacaa tttctcttat atgtgtattg 2460
105 ctaatcatta aggtattatt tttccacat ataaagcttt gtctttttgt tgttgttgtt 2520
107 gtttttaaga tggagtttcc ctctgttgcc aggctagagt gcagtggcat gatctcggct 2580
109 tactgcaacc tttgctccc aggtttaagc gattctctctg cctcagcctc ccgagtagct 2640
111 gggaccacag gtgcctacca ccatgccagg ctaatttttg tatttttagt aaagacaggg 2700
113 tttcaccata ttggccaggc tgggtctcgaa ctctgacct tgtgatctgc ccgcctccat 2760
115 tgtgttgtta tttgtgagaa agatagatat gaggtttaga gagggatgaa gaggtgagag 2820
117 taagccttgt gttagtcaga actctgtgtt gtgaatgtca ttcacaacag aaaacccaaa 2880
119 atattatgca aactactgta agcaagaaaa ataaaggaaa aatggaaaca tttattcctt 2940
121 tgcataatag aaattaccag agttgttctg tcttttagata aggtttgaac caaagctcaa 3000
123 aacaatcaag acccttttct gtatgtcctt ctgttctgcc ttccgcagtg taggctttac 3060
125 cctcaggtgc tacacagtat agttctaggg tttccctccc gatatcaaaa agactgtggc 3120
127 ctgcccagct ctcgatccc caagccacac catctggcta aatggacatc atgttttctg 3180
129 tggatgccc aagaggagag aggaagctct ctttcccaga tgcccagca agtghtaacct 3240
131 tgcattctcat tgcctgggt ttaattgcat ctttaagttag gggatgtag aggtattttc 3300
133 gatgaaatat tcatattgac ttaattgcat ctttaagttag gggatgtag aggtattttc 3360
135 cctaaagcaa aattgggaca ctgttatcag aaataggaga gtggatgata gatgcaaaaat 3420
137 aatacctgtc cacaacaaac tcttaatgct gtgtttgagc tttcatgagt ttcccagaga 3480
139 gacatagctg gaaaattcct attgattttc tctaaaattt caacaagtag ctaaagtctg 3540
141 gctatgtcga cagtctcaca tctgggtggg gtgggctcct tacagaacac gctttcacag 3600
143 ttaccctaaa ctctctgggg cagggttatt cctttgtgga accagaggca cagagacagt 3660
145 caactgaggc ccaacagagg cctgagagaa actgaggtca agatttcagg attaatgggc 3720
147 ctgtgatgct ttgaagtaca attgtggatt tgtccaattc tctttagtgc tgtcagcttt 3780
149 tgcttcatat atttttagcgc tctattatta gatataata tgttttagtat tatgtcttat 3840
151 tgggtgcattt actctcttat cattatgtaa tgtccttctt tatctgtgat aattttctgt 3900
153 gttctgaagt ctactttgtc taaaaataac atacgcactc aacttccttt tctttcttcc 3960
155 ttctttctt tcttcttctc tttctttctc tctctctctt tcttctctt cttctctctt 4020
157 ttctctctct ctctctctct ctctcttttc ttgacagaact ctctgtctgt ggccctggct 4080
159 ggagttcagt ggtgtgatct tggctcactg ctacctctac catgagcaat tctctgct 4140
161 cagcctccca agtagctgga actacaggct catgccactg cgcccagcta atttttgtat 4200
163 ttttctaga gacggggttt caccacattc gtcagggttg tttcaaactc ctgactttgt 4260
165 gatccaccog cctcggcctc ccaaagtgtc gggattacag gcattgagcca tcacacttgg 4320
167 tcaactttct tttgattagt gtttttgtgg tatatctttt tccatcatgt tactttaaat 4380
169 atatctatat tattgtattt aaaatgtgtt tcttacagac tgcattgtat tgggtataat 4440
171 ttttatccag tctaaaaata tctgtctttt aattgggtgt tagacaattt atatttaata 4500
173 aaatggtgga atttaaa 4517
176 <210> SEQ ID NO: 2
177 <211> LENGTH: 484
178 <212> TYPE: DNA

```

RAW SEQUENCE LISTING

DATE: 09/01/2004

PATENT APPLICATION: US/10/659,782A

TIME: 16:56:55

Input Set : A:\28238 sequence listing.txt

Output Set: N:\CRF4\09012004\J659782A.raw

```

179 <213> ORGANISM: Homo sapiens
181 <400> SEQUENCE: 2
182 atgacccggg gctgaagggt cccgaggctt tccgggaatc caaggcagga aaggagaacc      60
184 tggagaaggt gcctatgtat accgctcagc attcagtgtg ggattggaga cttacgttac      120
186 tatccccaac atgcccattc gctttaccaa gatcttctac aatcagcaaa accactatga      180
188 tggctccact ggtaaattcc actgcaacat tcctgggctg tactactttg cctaccacat      240
190 cacagtctat atgaaggatg tgaagggtcag cctcttcaag aaggacaagg ctatgctctt      300
192 cacctatgat cagtaccagg aaaataatgt ggaccaggcc tccggctctg tgctcctgca      360
194 tctggaggtg ggcgaccaag tctggctcca ggtgtatggg gaaggagagc gtaatggact      420
196 ctatgctgat aatgacaatg actccacctt cacaggcttt cttctctacc atgacaccaa      480
198 ctga
199                                     484
201 <210> SEQ ID NO: 3
202 <211> LENGTH: 718
203 <212> TYPE: DNA
204 <213> ORGANISM: Homo sapiens
206 <400> SEQUENCE: 3
207 ctgattccat accagagggg ctcaggatgc tgttgctggg agctgttcta ctgctattag      60
209 ctctgcccgg gcatgaccag gaaaccacga ctcaagggcc cggagtcctg cttcccctgc      120
211 ccaagggggc ctgcacaggt tggatggcgg gcatcccagg gcatccgggc cataatgggg      180
213 cccagggccg tgatggcaga gatggcacc cttggtgagaa ggggtgagaaa ggagatccag      240
215 gtcttatttg tcctaaggga gacatcgggt aaaccggagt acccggggct gaagggtccc      300
217 gaggttttcc gggaatccaa ggcaggaaag gagaacctgg agaaggtgcg ttactatccc      360
219 caacatgccc attcgcttta ccaagatctt ctacaatcag caaaaccact atgatggctc      420
221 tactggtaaa ttccactgca acattcctgg gctgtactac tttgcctacc acatcacagt      480
223 ctatatgaag gatgtgaagg tcagcctctt caagaaggac aaggctatgc tcttcaccta      540
225 tgatcagtac caggaataa atgtggacca ggccctcggc tctgtgctcc tgcattctga      600
227 ggtgggcgac caagtctggc tccaggtgta tggggaagga gagcgtaatg gactctatgc      660
229 tgataatgac aatgactcca cttcacagg ctttcttctc taccatgaca ccaactga      718
232 <210> SEQ ID NO: 4
233 <211> LENGTH: 537
234 <212> TYPE: DNA
235 <213> ORGANISM: Homo sapiens
237 <400> SEQUENCE: 4
238 ctgattccat accagagggg ctcaggatgc tgttgctggg agctgttcta ctgctattag      60
240 ctctgcccgg gcatgaccag gaaaccacga ctcaagggcc cggagtcctg cttcccctgc      120
242 ccaagggggc ctgcacaggt tggatggcgg gcatcccagg gcatccgggc cataatgggg      180
244 cccagggccg tgatggcaga gatggcacc cttggtgagaa ggggtgagaaa ggagatccag      240
246 gtcttatttg tcctaaggga gacatcgggt aaaccggagt acccggggct gaagggtccc      300
248 gaggttttcc gggaatccaa ggcaggaaag gagaacctgg agaaggtgcc tatgtatacc      360
250 gctcagcatt cagtgtggga ttggagactt acgttactat cccaacatg cccattcgct      420
252 ttaccaagat cttctacaat cagcaaaacc actatgatgg ctccactggg aaattccact      480
254 gcaacattcc tgggctgtac cttcacaggc tttcttctct accatgacac caactga      537
257 <210> SEQ ID NO: 5
258 <211> LENGTH: 1306
259 <212> TYPE: DNA
260 <213> ORGANISM: Mus musculus
262 <400> SEQUENCE: 5
263 atgagacctg gccactttct cctcatttct gtctgtacga ttgtcagtgg atctgacgac      60
265 accaaaaggg ctcaggatgc tactgttgca agctctcctg ttctctttaa tctgcccag      120

```

RAW SEQUENCE LISTING

DATE: 09/01/2004

PATENT APPLICATION: US/10/659,782A

TIME: 16:56:55

Input Set : A:\28238 sequence listing.txt

Output Set: N:\CRF4\09012004\J659782A.raw

```

267 tcatgccgaa gatgacgtta ctacaactga agagctagct cctgctttgg tccctccacc 180
269 caaggggaact tgtgcagggt ggatggcagg catcccagga catcctggcc acaatggcac 240
271 accaggccgt gatggcagag atggcactcc tggagagaag ggagagaaag gagatgcagg 300
273 tcttcttgggt cctaagggtg agacaggaga tgttggaaatg acaggagctg aaggggccacg 360
275 gggcttcccc ggaacccctg gcaggaaagg agagcctgga gaagccgctt atgtgtatcg 420
277 ctacagcgttc agtgtggggc tggagaccgg cgtcactgtt cccaatgtac ccattcgctt 480
279 tactaagatc ttctacaacc aacagaatca ttatgacggc agcactggca agttctactg 540
281 caacattccg ggactctact acttctctta ccacatcacg gtgtacatga aagatgtgaa 600
283 ggtgagcctc ttcaagaagg acaaggccgt tctcttcacc tacgaccagt atcaggaaaa 660
285 gaatgtggac caggcctctg gctctgtgct cctccatctg gaggtgggag accaagtctg 720
287 gctccagggtg tatggggatg gggaccacaa tggactctat gcagataacg tcaacgactc 780
289 tacatttact ggctttcttc tctaccatga taccactga ctgcaactac ccatagccca 840
291 tacaccagga gaatcatgga acagtcgaca cactttcagc ttagtttgag agattgattt 900
293 tattgcttag tttagagatc ctgagtatta tccacacgtg tactcacttg ttcattaaac 960
295 gactttataa aaaataattt gtgttcttag tccagaaaaa aaggcactcc ctggtctcca 1020
297 cgactcttac atggttagcaa taacagaatg aaaatcacat ttggtatggg ggcttcacaa 1080
299 tattcgcatg actgtctgga agtagaccat gctatttttc tgctcactgt acacaaatat 1140
301 tgttcacata aaccctataa tgtaaatatg aaatacagtg attactcttc tcacaggctg 1200
303 astgtatgaa ttctaaagac ccataagtat taaagtggta gggataaatt ggaaaaaaaa 1260
305 aaaaaaaaaa agaaaaactt tagagcacac tggcgccgt tactag 1306

```

308 <210> SEQ ID NO: 6

309 <211> LENGTH: 1184

310 <212> TYPE: DNA

311 <213> ORGANISM: Mus musculus

313 <400> SEQUENCE: 6

```

314 gctcattcat cttttaattc acccataaag gctttgaaaa ctaaggctgg agatgaactt 60
316 ataggagcct gccaggccgt ggagagttag gaagcagaga tgacggagat gatgtctttc 120
318 cttgtcctgt gaaatggatt gtgggttagag gttccggaga taatgcctct tgctggaaac 180
320 agtctgggca gttctgttcc cgccattcac agaattcttc tcactttcta ggtcttcttg 240
322 gtcctaaggg tgagacagga gatgttgaa tgacaggagc tgaagggcca cggggcttcc 300
324 ccggaacccc tggcaggaaa ggagagcctg gagaagccgc ttatgtgtat cgctcagcgt 360
326 tcagtgtggg gctggagacc cgcgtcactg ttcccaatgt acccattcgc tttactaaga 420
328 tcttctacaa ccaacagaat cattatgacg gcagcactgg caagttctac tgcaacattc 480
330 cgggactcta ctacttctct taccacatca cgggtgtacat gaaagatgtg aaggtgagcc 540
332 tcttcaagaa ggacaaggcc gttctcttca cctacgacca gtatcaggaa aagaatgtgg 600
334 accaggcctc tggctctgtg ctctccatc tggaggtggg agaccaagtc tggctccagg 660
336 tgtatgggga tggggaccac aatggactct atgcagataa cgtcaacgac tctacattta 720
338 ctggctttct tcttaccat gataccaact gactgcaact acccatagcc catacaccag 780
340 gagaatcatg gaacagtcga cacactttca gcttagtttg agagattgat tttattgctt 840
342 agtttgagag tcctgagtat tatccacacg tgtactcact tgttcattaa acgactttat 900
344 aaaaaataat ttgtgttctt agtcagaaa aaaaggcact ccctggtctc cacgactctt 960
346 acatggtagc aataacagaa tgaaaatcac atttggtatg ggggcttcac aatattcgca 1020
348 tgactgtctg gaagtagacc atgctatttt tctgctcact gtacacaaat attgttcaca 1080
350 taaaccctat aatgtaaata tgaaatacag tgattactct tctcacaggc tgagtgtatg 1140
352 aattctaaag acccataagt attaaagtgg tagggataaa ttgg 1184

```

355 <210> SEQ ID NO: 7

356 <211> LENGTH: 1209

357 <212> TYPE: DNA

358 <213> ORGANISM: Mus musculus

RAW SEQUENCE LISTING

DATE: 09/01/2004

PATENT APPLICATION: US/10/659,782A

TIME: 16:56:55

Input Set : A:\28238 sequence listing.txt

Output Set: N:\CRF4\09012004\J659782A.raw

```

360 <400> SEQUENCE: 7
361 atgagacctg gccactttct cctcattttct gtctgtacga ttgtcagtgg atctgacgac      60
363 accaaaaggg ctcaggatgc tactgttgca agctctcctg ttctctttaa tcctgcccag      120
365 tcatgccgaa gatgacgta ctacaactga agagctagct cctgctttgg tccctccacc      180
367 caagggaaact tgtgcagggt ggatggcagg catcccagga catcctggcc acaatggcac      240
369 accaggccgt gatggcagag atggcactcc tggagagaag ggagagaaag gagatgcagg      300
371 tcttcttggt cctaaggggt agacaggaga tgttggaatg acaggagctg aagggccacg      360
373 gggcttcccc ggaacccctg gcaggaaaag agagcctgga gaagccgctt cactgttccc      420
375 aatgtaccca ttctgtttac taagatcttc tacaaccaac agaattatta tgacggcagc      480
377 actggcaagt tctactgcaa cattccggga ctctactact tctcttacca catcacggtg      540
379 tacatgaaag atgtgaaggt gagcctcttc aagaaggaca aggccgttct cttcacctac      600
381 gaccagtatc aggaaaagaa tgtggaccag gcctctggct ctgtgtcctt ccatctggag      660
383 gtgggagacc aagtctggct ccagggtgat ggggatgggg accacaatgg actctatgca      720
385 gataacgtca acgactctac atttactggc tttcttctct accatgatac caactgactg      780
387 caactaccca tagcccatat accaggagaa tcatggaaca gtcgacacac tttcagctta      840
389 gtttgagaga ttgattttat tgcttagttt gagagtcctg agtattatcc acacgtgtac      900
391 tcaattgttc attaaacgac tttataaaaa ataatttgtg ttcctagtcc agaaaaaaag      960
393 gcactccctg gtctccacga ctcttacctg gtagcaataa cagaatgaaa atcacatttg     1020
395 gtatgggggc ttcacaatat tcgcatgact gtctggaagt agaccatgct atttttctgc     1080
397 tcaactgtaca caaatattgt tcacataaac cctataatgt aaatatgaaa tacagtgatt     1140
399 actcttctca caggctgagt gtatgaattc taaagacca taagtattaa agtggtaggg     1200
401 ataaattgg                                     1209
404 <210> SEQ ID NO: 8
405 <211> LENGTH: 1028
406 <212> TYPE: DNA
407 <213> ORGANISM: Mus musculus
409 <400> SEQUENCE: 8
410 atgagacctg gccactttct cctcattttct gtctgtacga ttgtcagtgg atctgacgac      60
412 accaaaaggg ctcaggatgc tactgttgca agctctcctg ttctctttaa tcctgcccag      120
414 tcatgccgaa gatgacgta ctacaactga agagctagct cctgctttgg tccctccacc      180
416 caagggaaact tgtgcagggt ggatggcagg catcccagga catcctggcc acaatggcac      240
418 accaggccgt gatggcagag atggcactcc tggagagaag ggagagaaag gagatgcagg      300
420 tcttcttggt cctaaggggt agacaggaga tgttggaatg acaggagctg aagggccacg      360
422 gggcttcccc ggaacccctg gcaggaaaag agagcctgga gaagccgctt atgtgtatcg      420
424 ctacgcgttc agtgtggggc tggagaccgg cgtcactgtt cccaatgtac ccattcgctt      480
426 tactaagatc ttctacaacc aacagaatca ttatgacggc agcactggca agttctactg      540
428 caacattccg ggactctaca tttactggct ttcttctcta ccatgatacc aactgactgc      600
430 aactacccat agcccatata ccaggagaat catggaacag tcgacacact ttcagcttag      660
432 tttgagagat tgattttatt gcttagtttg agagtcctga gtattatcca caogtgtact      720
434 cacttggtca ttaaaccgact ttataaaaaa taatttgtgt tcctagtcca gaaaaaaagg      780
436 cactccctgg tctccacgac tcttacctgg tagcaataac agaatgaaaa tcacatttgg      840
438 tatgggggct tcacaatat cgcatactgt tctggaagta gaccatgcta tttttctgct      900
440 cactgtacac aaatatgtgt cacataaacc ctataatgta aatatgaaat acagtgatta      960
442 ctcttctcac aggctgagtg tatgaattct aaagacccat aagtattaaa gtggtaggga     1020
444 taaattgg                                     1028
447 <210> SEQ ID NO: 9
448 <211> LENGTH: 306
449 <212> TYPE: DNA
450 <213> ORGANISM: Mus musculus

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 09/01/2004
PATENT APPLICATION: US/10/659,782A TIME: 16:56:56

Input Set : A:\28238 sequence listing.txt
Output Set: N:\CRF4\09012004\J659782A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:13; N Pos. 626
Seq#:34; Xaa Pos. 163

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/659,782A

DATE: 09/01/2004

TIME: 16:56:56

Input Set : A:\28238 sequence listing.txt

Output Set: N:\CRF4\09012004\J659782A.raw

L:613 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:600
L:1711 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:160